Claims:

1. Contact element for supplying electric current to substantially board-shaped objects that are to be treated by an electrolytic process,

   wherein the contact element (**15, 16**) has one or more contact areas (**26**), the shape of the contact areas being configured in such a way that no damages occur in the areas of the conductive surface adjacent to the contact areas when large currents are transmitted from the contact elements (**15, 16**) printed on the contact areas on the electrically conductive surface of printed board material (**L**), to the conductive surface.

2. Contact element according to claim 1, wherein the contact element (**15, 16**) is provided with contact areas (**26**) which are limited by boundary lines (**34**), the shape of the contact areas being designed in such a way that the ratio V of the square of the overall length L of all boundary lines (**34**) to the size F of all the contact areas (**26**)

$$V = \frac{L^2}{F}$$

   is at least 25.

3. Contact element according to one of the previous claims, wherein the contact element (**15, 16**) is provided with at least two humps (**24**) which are separated by intervals (**25**) and which have one contact area (**26**) each, said contact areas (**26**) lying substantially in one plane and being arranged in such a manner that electrical contact can be made among all the contact areas (**26**) and their corresponding contacting areas on the objects (**L**).

4. Contact element according to claim 3, wherein the humps **(24)** have a section which is essentially circular and parallel to the plane in which the contact areas **(26)** are lying.

5. Contact element according to one of the claims 3 and 4, wherein the number of humps **(24)** is even, the humps **(24)** being arranged in rows.

6. Contact element according to claim 5, wherein four humps **(24)** are provided and arranged in such a way that the respective contact areas **(26)** are arranged at the corners of a square, a parallelogram or a trapezoid.

7. Contact element according to claim 3, wherein at least one interval **(25)** is provided which is shaped like a groove.

8. Contact element according to claim 7, wherein several grooves **(25)** are provided that subdivide a circular surface into several contact areas **(26)** which have the shape of a segment of a circle, the grooves **(25)** intersecting the center of the circular surface.

9. Contact element according to claim 8, wherein two grooves **(25)** are provided which are arranged perpendicularly to one another and which subdivide the circular surface into four equally sized contact areas **(26)** having the shape of a segment of a circle.

10. Contact element according to one of the claims 1 and 2, wherein the contact element **(15, 16)** is provided with at least one contact area **(26)**, said contact area **(26)** being star-shaped, trifoliate or dumbbell-shaped.

11. Contact element according to one of the previous claims, wherein the contact element is preferably made from titanium, niobium, tantalum or from alloys of these metals or of other metals.

12. Contact element according to one of the previous claims, wherein the contact areas **(26)** are substantially made of copper.

13. Contact element according to one of the previous claims, wherein the contact areas **(26)** are coated with an electrically conductive, chemically resistant coating of gold, platinum, iridium, ruthenium, rhodium, alloys of these metals or mixed oxides.

14. Contact organ for supplying electric current to substantially board-shaped objects that are to be treated by an electrolytic process provided with at least one stem and with at least one contact element, the at least one contact element being arranged at one end of the stem, the stem being movable with the contact element by way of a restoring force in such a way that the contact element can be printed onto the surface of the objects,

wherein the contact element **(15, 16)** has one or more contact areas **(26)**, the shape of the contact areas being configured in such a way that no damages occur in the areas of the conductive surface adjacent to the contact areas when large currents are transmitted from the contact elements **(15, 16)** printed on the contact areas on an electrically conductive surface of printed board material **(L)**, to the conductive surface.

15. Contact organ according to claim 14, wherein the contact element **(15, 16)** is provided with contact areas **(26)** which are limited by boundary lines **(34)**, the shape of the contact areas being designed in such a way that the ratio V of the square of the overall length L of all boundary lines **(34)** to the size F of all the contact areas **(26)**

$$V = \frac{L^2}{F}$$

is at least 25.

16. Contact organ according to claim 14, wherein the at least one contact element **(15, 16)** is provided with at least two humps **(24)** which are separated by intervals **(25)** and which have one contact area **(26)** each, said contact areas **(26)** lying substantially in

one plane and being arranged in such a manner that electrical contact can be made among all the contact areas **(26)** and their corresponding contacting areas on the objects **(L)**.

17. Method for supplying electric current to substantially board-shaped objects that are to be treated by an electrolytic process, at least one current-carrying contact element being printed on the surface of the objects, thereby generating a flow of current between the contact elements and the objects,

wherein the contact elements **(15, 16)** have one or more contact areas **(26)**, the shape of the contact areas being configured in such a way that no damages occur in the areas of the conductive surface adjacent to the contact areas when large currents are transmitted from the contact element **(15, 16)** printed on the contact areas on the electrically conductive surface of printed board material **(L)**, to the conductive surface.

18. Method according to claim 17, wherein the contact element **(15, 16)** is provided with contact areas **(26)** which are limited by boundary lines **(34)**, the shape of the contact areas being designed in such a way that the ratio V of the square of the overall length L of all boundary lines **(34)** to the size F of all the contact areas **(26)**

$$V = \frac{L^2}{F}$$

is at least 25.